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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/491,994	01/26/2000	Curtis Gregory Kelsay	10990356-1	9325

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EXAMINER

WILLIAMS, KEVIN D

ART UNIT	PAPER NUMBER
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2854

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/491,994

Applicant(s)

KELSAY, CURTIS GREGORY

Examiner

Kevin D. Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-23,25-29,33-39 and 41-50 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 20-23,25-29,33-39 and 41-50 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 02 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 42, 48, and 49 are rejected under 35 U.S.C. 102(e) as being anticipated by Pressler (US 6,005,700).

Pressler teaches a printed circuit assembly 108, a direct wire port 228 electrically coupled to the printed circuit assembly, an optical transducer 150 electrically coupled to the printed circuit assembly and adapted to transmit information optically, an optical data port 172 arranged to communicate with an open environment, a light pipe assembly optically coupling the optical transducer

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and the optical data port, a transmit light pipe 160 adapted to optically transmit information from the optical transducer to the optical data port, the transmit light pipe 160 being configured to exit and diverge light from the optical data port to the open environment, a housing 100 having a first side (at 256) and a second side (at 235b) being opposite one another, where the printed circuit assembly, the optical transducer, and the light pipe assembly are disposed within the housing, the direct wire port communicates with the first side of the housing and the optical data port communicates with the second side of the housing.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 20-23, 25-29, 33-39, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuji (US 5,796,890) in view of Pressler, Sedlmayr (US 6,034,818), and Kawakami (US 5,848,203).

Tsuji teaches a device adapted to optically exchange information between an optical transducer adapted to transmit and receive information optically and an optical data port arranged to communicate with an open environment, comprising a transmit fiber cable 41a adapted to optically transmit information optically transmitted by the optical transducer 20,21 (col. 8, lines 46-52) from the

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optical transducer to the optical data port (noted in Fig. 1), a receive fiber cable 41b adapted to optically receive information via the optical data port and optically transmit the received information to the optical transducer 20,21 (col. 8, lines 46-52), the transmit fiber optic configured to exit light from the optical data port to the open environment, the receive fiber cable being configured to receive light from the open environment on the optical transducer, a first end (near 51b) of the transmit fiber optic 41a being adapted to be optically coupled to the optical transducer and a second end (near 51a) of the transmit fiber cable being adapted to provide a portion of the optical data port (noted in Fig. 1), a first end (near 51d) of the receive fiber cable 41b being adapted to be optically coupled to the optical transducer 20,21 and a second end (near 51c) of the receive fiber cable 41b being adapted to provide a portion of the optical data port (noted in Fig. 1), the fiber cable providing bi-directional communication between the optical transducer and the optical data port, the optical transducer including a receive portion and a transmit portion.

Tsuji does not teach a transmit light pipe and a receive light pipe, a first lens of the transmit light pipe, first and second lens of the receive light pipe where the lenses are formed as part of the light pipes, a second lens of the transmit pipe for increasing an angle of and diverging light exiting the optical data, an optical interlink for exchanging information for a printer, where the transducer and the light pipe are disposed within a printer and where the light pipe is adapted to optically exchange information with the optical transducer and externally of the printer, and an infrared transducer. Tsuji also does not teach

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the method steps of receiving light rays from the open environment at the optical data port and exiting transmitted light rays from the optical data port to the open environment.

Pressler teaches that light pipes and fiber optic cables are interchangeable light transfer mediums (col. 2, lines 8-10). Pressler also teaches light pipes 160,165 that receive light rays from the open environment (at 170 in Fig.1) and exit transmitted light rays from an optical data port to the open environment (at 172 in Fig. 1). Pressler teaches that it is advantageous to receive and transmit light rays to the open environment in order to communicate the light rays with portable peripheral devices.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the fiber optic cables of Tsuji to be light pipes, because light pipes and fiber optic cables function equally as well in transferring light as taught by Pressler. In view of the teaching of Pressler, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Tsuji to receive light rays from the open environment and transmit light rays to the open environment, in order to allow the light rays to communicate with portable peripheral devices as taught by Pressler.

Sedlmayr teaches a light pipe 75 having a first lens 45 and a second lens 71 being formed as part of the pipe. Sedlmayr provides the lens 45 and the lens 71 to collimate the light being transmitted (Fig. 27A).

In view of the teaching of Sedlmayr to provide lens at each end of the pipe for the purpose of collimating light entering and leaving the pipe it would have

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been obvious to one having ordinary skill in the art to additionally modify Tsuji to have the lens as taught by Sedlmayr at both ends of the receive pipe and at the first end of the transmit pipe, in order to collimate light entering and leaving the pipes.

Kawakami teaches a lens 27A for increasing an angle of transmitted light (col. 2, lines 39-43) and it would have been obvious to one having ordinary skill in the art at the time of the invention to additionally modify Tsuji to have the lens as taught by Kawakami, in order to increase the angle of the light exiting the data port so that the light may be more easily received by another device.

Pressler teaches an optical interlink for exchanging information using a peripheral device of a computer, where the transducer and the light pipe are disposed within the peripheral device and where the light pipe is adapted to optically exchange information with the optical transducer and externally of the peripheral device.

As it is known that a printer is a commonly used peripheral device for a computer, it would have been obvious to one having ordinary skill in the art to modify Tsuji to have the optical interlink in a printer in order to have the convenience of optically transmitting print jobs.

Sedlmayr teaches the conventionality and effectiveness of transmitting infrared light (col. 17, lines 39-41).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have an infrared transducer in order to utilize a form of light which transmits effectively.

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5. Claims 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pressler in view of Tsuji.

Pressler teaches the claimed invention except for the optical transducer being adapted to receive information optically, the light pipe assembly providing bi-directional communication between the optical transducer and the optical data port, a receive light pipe adapted to optically receive information via the optical data port and optically transmit the received information to the optical transducer.

Tsuji teaches an optical transducer 21 being adapted to receive information optically, the fiber optic assembly providing bi-directional communication between the optical transducer and an optical data port (previously noted in Fig. 1), a receive fiber optic 41b adapted to optically receive information via the optical data port and optically transmit the received information to the optical transducer.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Pressler to have the light pipes communicate bi-directionally between the optical transducer and the data port, in order to save cost by eliminating the need to provide a separate device for receiving optical information, thus increasing the versatility of the Pressler device.

6. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pressler in view of Tsuji as applied to claims 43-45 above, and further in view of Sedlmayr.

Pressler in view of Tsuji teaches the claimed invention except for the receive light pipe being configured to converge light from the open environment

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on the optical transducer, and a receive lens configured to collimate light from the open environment into the receive light pipe.

Sedlmayr teaches a light pipe 75 having a first lens 45. Sedlmayr provides the lens 45 to collimate the light being transmitted (Fig. 27A).

It would have been obvious to one having ordinary skill in the art to additionally modify Pressler to have the lens as taught by Sedlmayr, in order to collimate light entering the pipe.

7. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pressler in view of Tsuji and Sedlmayr as applied to claims 45 above, and further in view of Kawakami.

Pressler in view of Tsuji and Sedlmayr teaches the claimed invention except for a transmit lens configured to increase an angle of illumination of light exiting the optical data port to the open environment.

Kawakami teaches a lens 27A for increasing an angle of transmitted light (col. 2, lines 39-43).

It would have been obvious to one having ordinary skill in the art at the time of the invention to additionally modify Pressler to have the lens as taught by Kawakami, in order to increase the angle of the light exiting the data port so that the light may be more easily received by another device.

8. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pressler.

Pressler teaches the claimed invention except for the apparatus being a printer.

Pressler teaches an optical interlink for exchanging information using a peripheral device of a computer, where the transducer and the light pipe are disposed within the peripheral device and where the light pipe is adapted to optically exchange information with the optical transducer and externally of the peripheral device.

As it is known that a printer is a commonly used peripheral device for a computer, it would have been obvious to one having ordinary skill in the art to additionally modify Pressler to have the optical interlink in a printer in order to have the convenience of optically transmitting print jobs.

Response to Arguments

9. Applicant's arguments filed 11/26/2003 have been fully considered but they are not persuasive.

Applicant argues that none of the references cited in the previous office action teach a transmit light pipe configured to exit and diverge light from an optical data port to an open environment and a receive light pipe configured to converge light from the open environment on an optical transducer. In response to applicant's argument, the examiner notes that Pressler teaches a transmit light pipe 160 configured to exit and diverge light from an optical data port to an open environment. Pressler also teaches that the light pipes are capable of receiving information from the open environment. See figures 6 and 7 at 317. Tsuji teaches a system that provides bi-direction communication between an optical transducer and a data port. Tsuji transmits over fiber optic cables. However,

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Pressler discloses that fiber optic cables and light pipes are interchangeable waveguide devices. Therefore, one skilled in the art would be inclined to simply modify Pressler to have a receive light pipe and communicate bi-directionally. Conversely, one skilled in the art would also be inclined to modify Tsuji to replace the cables with light pipes, since Pressler teaches that cables and light pipes are interchangeable.

Applicant argues that the Pressler reference does not optically transmit information to and optically receive information from edge 173. Pressler does teach to optically transmit information to the edge 173. Pressler does not explicitly teach to receive information from edge 173. However, Pressler does teach that the light pipes are capable of receiving optical information from the open environment. See figures 6 and 7 at 317. The teaching of Tsuji to provide bi-directional communication coupled with the teaching in Pressler that the pipes are capable of receiving optical information from the open environment would incline one skilled in the art to simply modify Pressler to have a receive light pipe and optically communicate bi-directionally between the optical transducer and the optical data port.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin D. Williams whose telephone number is (703) 305-3036. The examiner can normally be reached on Monday - Friday, 8:30am - 6:00pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew H. Hirshfeld can be reached on (703) 305-6619. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KDW
February 7, 2004



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